

Knight Foundation School of Computing and Information Sciences

Fall 2024 Senior Design Project

Stock Predictor

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PROBLEM

With how unpredictable stock market fluctuations occur, this poses a significant challenge for investors and analysts. The absence of personalized user experiences and ways to track stocks hinders the effectiveness of existing solutions, which is something we are addressing with this project. Thus, our project works to combine the predictive power of traditional algorithms along with a user-friendly web interface, which gives users the ability to login and track stock data easily.

TECHNOLOGIES

- C++
- Python
- Facebook Prophet
- Qt GUI Framework



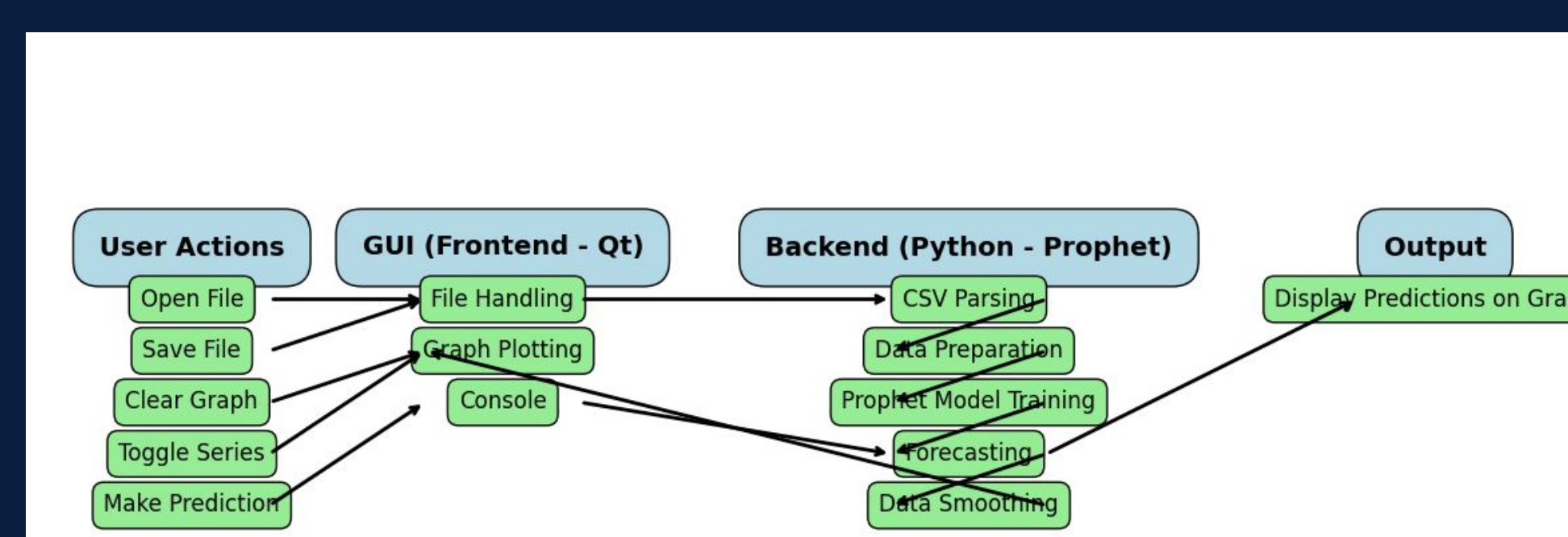
PREDICTIONS

The machine learning approach we are using leverages tools like Matplotlib and Pandas. These libraries will analyze historical stock data to make accurate predictions about future values. The algorithm will also generate a CSV file containing the stock's current and past values, allowing users to review historical data and make more informed investment decisions.

MECHANICS



Our stock prediction app leverages advanced machine learning to provide accurate stock price forecasts, with personalized recommendations based on user preferences and risk profiles. The design emphasizes a user-friendly interface, with intuitive buttons that streamline navigation.



Each button is strategically placed to guide users through essential features, such as viewing predictions, analyzing historical data, and adjusting settings. The flow of the design is built to create a seamless experience, ensuring that users can easily access real-time updates, visualizations, and social features that foster collaboration. With a focus on simplicity and functionality, the app optimizes portfolio performance while offering a clear and engaging design.

CONCLUSION

As a team we were able to fully comprehend the actual efforts required to deploy a fully executable app into the market. Using the SCRUM development process was an eye opening experience into the professional world and the requirements needed to be met daily while working on large scale apps in teams. The development of the team's chosen application idea has lead us all to understand, we have a lot more to learn even though we have learned a lot in our journey's.

FUTURE WORK

In the future, our stock predictor app could integrate advanced machine learning models, tapping into alternative data sources like social media sentiment and satellite imagery for economic insights. Personalization would refine recommendations based on user feedback, while enhanced visualization tools offer immersive data exploration. Blockchain tech could enable decentralized prediction markets, fostering crowd-sourced insights.